ABSTRACT

The present invention provides a chip for detecting DNA and method for detecting DNA using the same. In the chip according to the present invention, a double strand formed by hybridization of signaling DNA and probe DNA is fixed to an electrode, wherein the signaling DNA and probe DNA are complementary each other and either of the two is complementary to sequence of a target DNA, and the complementarity between the target DNA, and the signaling DNA and the probe DNA is different, and electrochemically active compound is bonded to the signaling DNA. Further, the method for detecting DNA according to the present invention induces competitive reaction for performing hybridization of the probe DNA and the signaling DNA, and detects the target DNA by measuring change in an electrochemical signal of the signaling DNA. The chip for detecting DNA and the method for detecting the DNA according to the present invention have the same degree of sensitivity as a conventional detection method without direct marking on the target DNA, and have an advantage like that there exists no need for cleaning step in an electrochemical measurement step suitable for small-sized DNA detection system.